



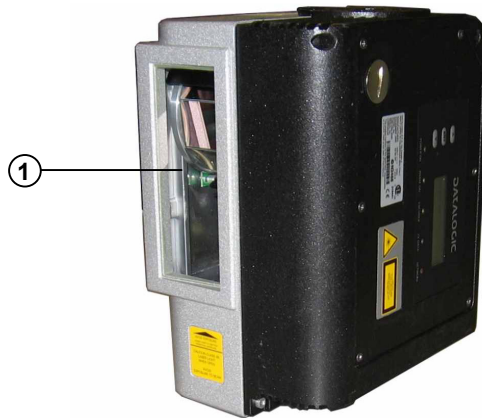
**DS8100A-3002**

**QUICK REFERENCE GUIDE**



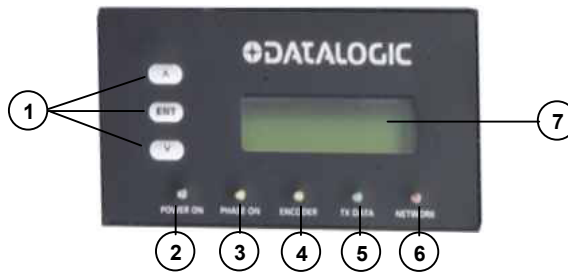
**DS8100A-3002**

**General View:**



**Figure A**

- ① Laser Beam Output Window



**Figure B**

- ① Programming Keypad
- ② Power On LED (Green)
- ③ Phase On LED (Yellow)
- ④ Encoder LED (Yellow)
- ⑤ TX Data LED (Green)
- ⑥ Network LED (Red)
- ⑦ LCD Display



**Figure C**

- ① Lonworks 17-pin Male Connector
- ② Lonworks 17-pin Female Connector



**NOTE**

*For further details on product installation, see the complete Reference Manual available on the configuration CD-ROM included with this product.*

**Technical Features:**

<b>ELECTRICAL FEATURES</b>	
Supply Voltage	20 - 30 Vdc
Power Consumption	1.0 to 0.67 A; 20 W typical 1.5 to 1.0 A; 30 W Max. (including startup current)
Communication Interfaces	<b>Auxiliary</b>
	RS232
	<b>Baud Rate</b> 1200 to 115200
Other	Lonworks
	1.25 Mb/s
<b>OPTICAL FEATURES</b>	
Light Receiver	Avalanche photodiode
Safety Class	630 to 680 nm
Wavelength	Class 2-EN 60825-1; Class II-CDRH
Laser Control	Security system to turn laser off in case of motor slow down
<b>READING FEATURES</b>	
Scan Rate	≤ 1000 scans/s
Max. Resolution Max. Read. Distance Max. Read. Width Max. Depth of Field	(see reading diagrams)
<b>USER INTERFACE</b>	
LCD Display	2 lines by 20 characters LCD
Keypad	3 keys
LED Indicators	Power ON (green) Phase ON (yellow) Encoder (yellow) TX Data (green) Network (red)
<b>SOFTWARE FEATURES</b>	
Operating Modes	PackTrack™
Config. Mode	Genius™ utility program
Parameter Storage	Non-volatile internal FLASH
Readable Codes	Interleaved 2/5 Code 39 standard Codabar Code 128 EAN 128 Code 93 (standard & full ASCII) EAN/UPC
Code Selection	Up to 10 codes during one reading phase
<b>ENVIRONMENTAL FEATURES</b>	
Operating Temperature	0° to +50 °C (+32 to +122 °F)
Storage Temperature	20° to +70 °C (-4° to +158 °F)
Humidity	-90% non condensing
Vibration Resistance: EN 60068-2-6	14 mm @ 2 to 10 Hz; 1.5 mm @ 13 to 55 Hz 2 g @ 70 to 200 Hz; 2 hours on each axis
Shock Resistance: EN 60068-2-27	30 g; 11 ms 3 shocks on each axis
Protection Class EN 60529	IP65*
<b>PHYSICAL FEATURES</b>	
Dimensions mm (inch)	217 x 173 x 127 (8.54 x 6.79 x 4.98)
Weight	5 Kg (11 lbs.)

\* IP65 cables and connectors required (CAB-850x or BTK-8500).

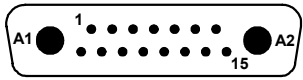
**Accessories:**

NAME	Description	Part Number
PWO-480	Power and Connect System 480W	93ACC1767
FS-1	Frame Shaper (8 pcs)	93ACC1750
FBK-8100	Fast Bracket Kit (2 pcs)	93ACC1130
US-8100	Bracket Kit (10 pcs)	93ACC1140
GFC-80	90 Degree Mirror	93A251020
GFC-800	90 Degree Close Distance Mirror	93A201103
S30	Photocell Kit	93ACC1782
PH-1	Photocell Kit - PNP	93ACC1791
MEP-543	Photocell Kit - NPN	93ACC1728
OEK-2	Optical Encoder Kit (10 m cable + spring)	93ACC1770
OEK-1	Optical Encoder Kit + 10 m cable	93ACC1600
BTK-8100	Bus Terminator Kit (5 pcs)	93ACC1090
BTK-8500	IP65 Terminator Kit (2 pcs)	93A051286
PLL-8000	Optocoupled PLL device	93ACC1280
CAB-8100	10 wire shielded cable D 9.5 mm – 50 m	93ACC1120
CAB-8101	17-pin scanner/scanner connection cable 1.2 m	93A051020
CAB-8102	17-pin scanner/scanner connection cable 2.5 m	93A051030
CAB-8105	17-pin scanner/scanner connection cable 5 m	93A051040
CAB-8501	IP65 Cable Fam 8K 1,2 m	93A051283
CAB-8502	IP65 Cable Fam 8K 2,5 m	93A051284
CAB-8505	IP65 Cable Fam 8K 5 m	93A051285
Datalogic WebSentinel-005	Supervisor (up to 5 arrays)	93A101014
Datalogic WebSentinel-010	Supervisor (up to 10 arrays)	93A101015
Datalogic WebSentinel-020	Supervisor (up to 20 arrays)	93A101016
Datalogic WebSentinel-032	Supervisor (up to 32 arrays)	93A101017
Datalogic WebSentinel-064	Supervisor (up to 64 arrays)	93A101018
Datalogic WebSentinel-128	Supervisor (up to 128 arrays)	93A101019
Datalogic WebSentinel-256	Supervisor (up to 256 arrays)	93A101020

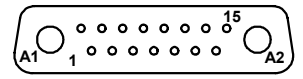
**Electrical Connections:**

Two 17-pin connectors provide access to the scanner's local Lonworks network used for both input and output connections to build a multi-sided or omni-station system.

17-pin Lonworks Connector Pinout		
Pin	Name	Function
A1	GND	Supply voltage (negative pin)
A2	VS	Supply voltage 20 to 30 Vdc (positive pin)
1	CHASSIS	Cable shield A - internally connected by capacitor to chassis
2	n.c.	Not connected
3	CHASSIS	Cable shield B - internally connected by capacitor to chassis
4	TXAUX	Transmit data of auxiliary RS232 (referred to SGND)
5	SGND	Signal ground (connected to GND)
6	RXAUX	Receive data of auxiliary RS232 (referred to SGND)
7	VS_I/O	Supply voltage of I/O circuit
8	Lon A+	Lonworks a line (positive pin)
9	Lon A-	Lonworks a line (negative pin)
10	Lon B+	Lonworks b line (positive pin)
11	Lon B-	Lonworks b line (negative pin)
12	SYS_I/O	System signal
13	SYS_ENC_I/O	System signal
14	Reserved	Internally connected
15	Ref_I/O	Reference voltage of I/O circuit



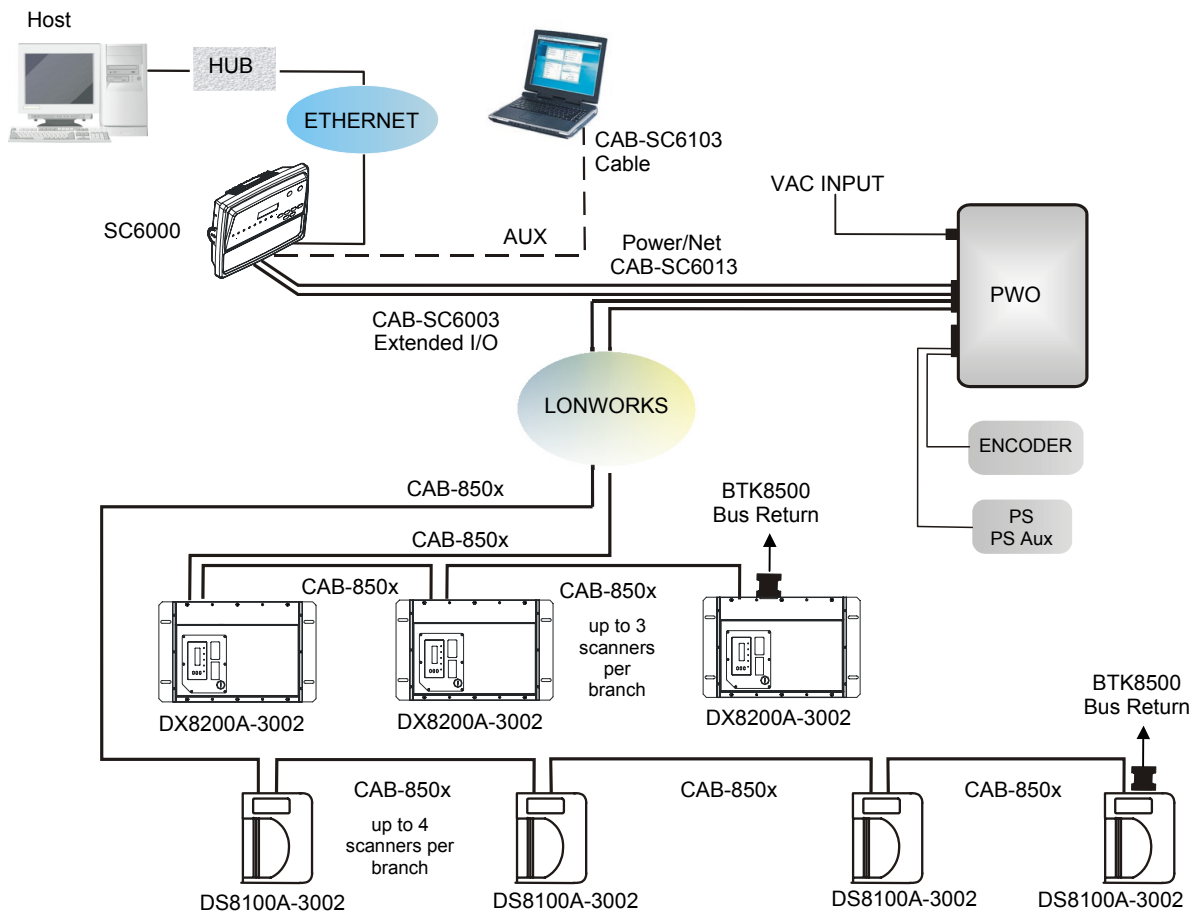
**Male - Input**



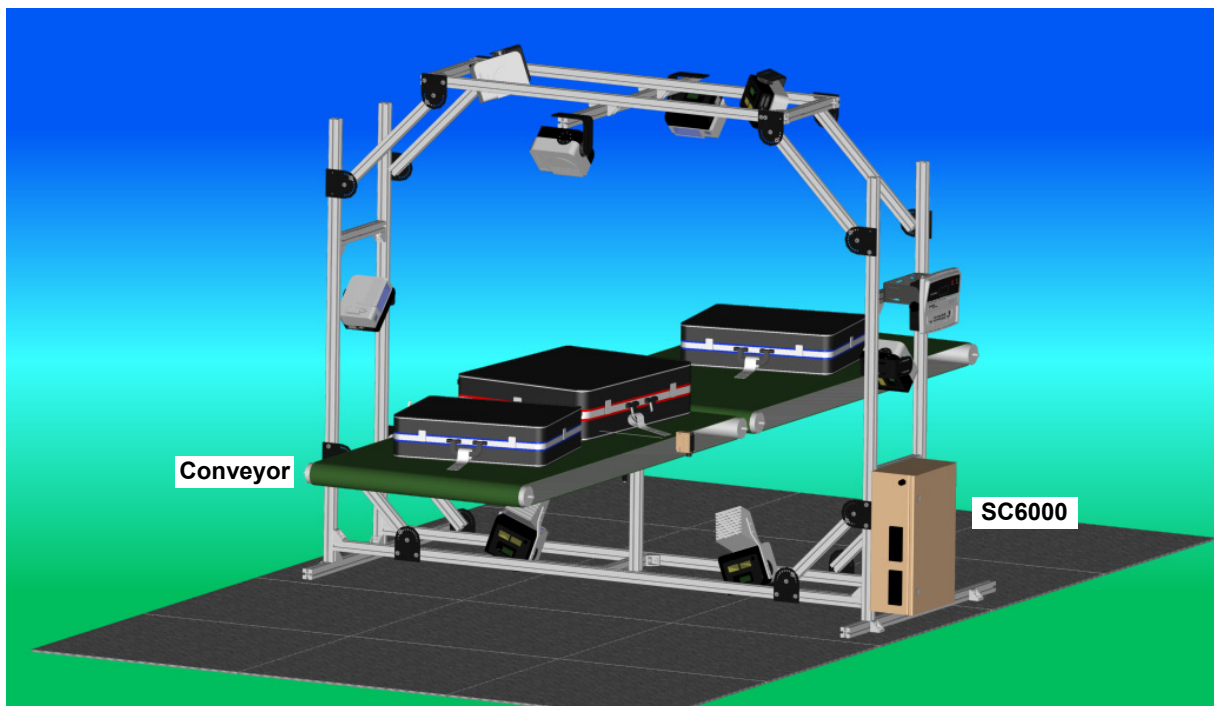
**Female - Output**

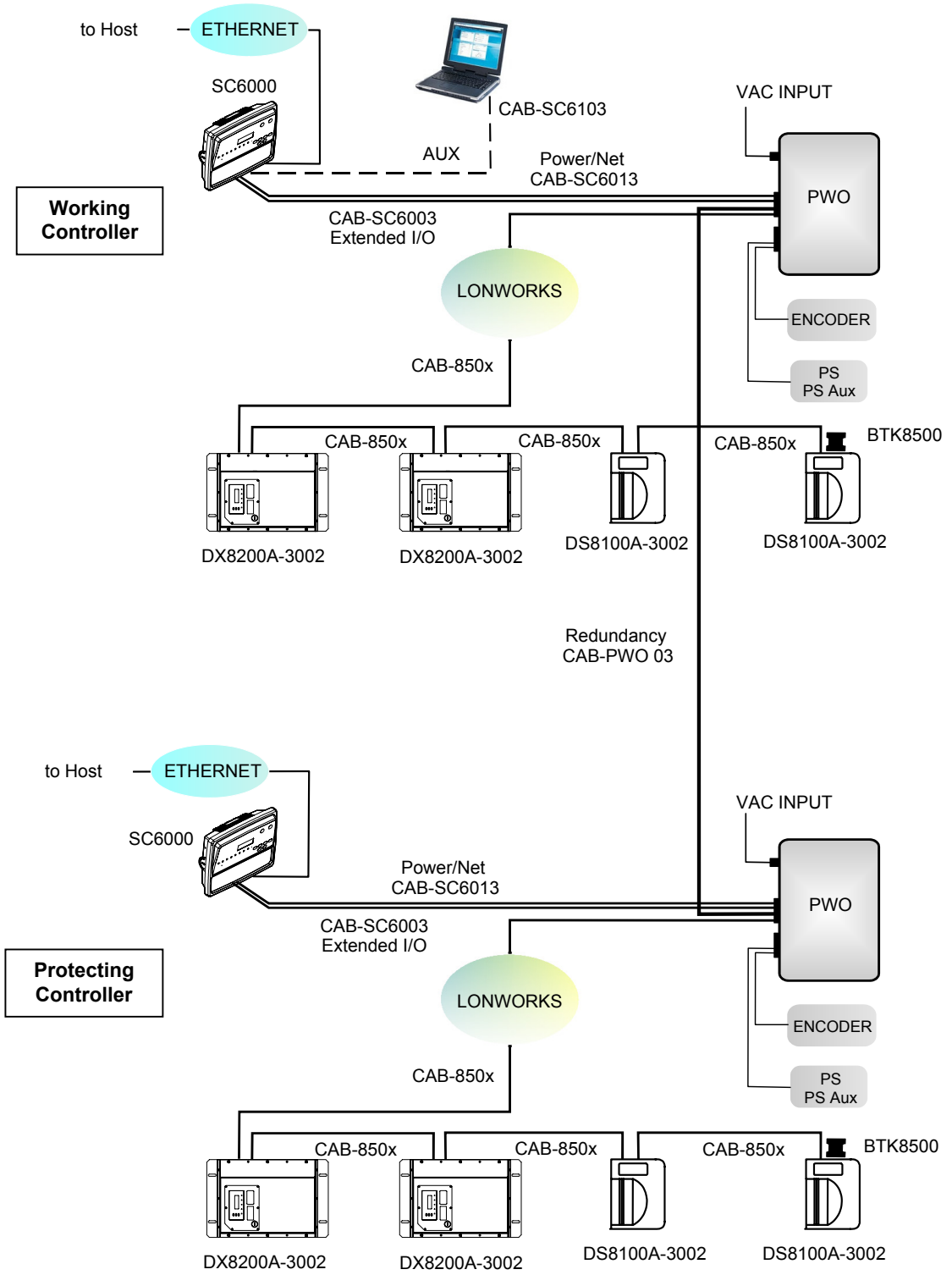
**17-pin Local Lonworks Connectors**

**Connectivity:**

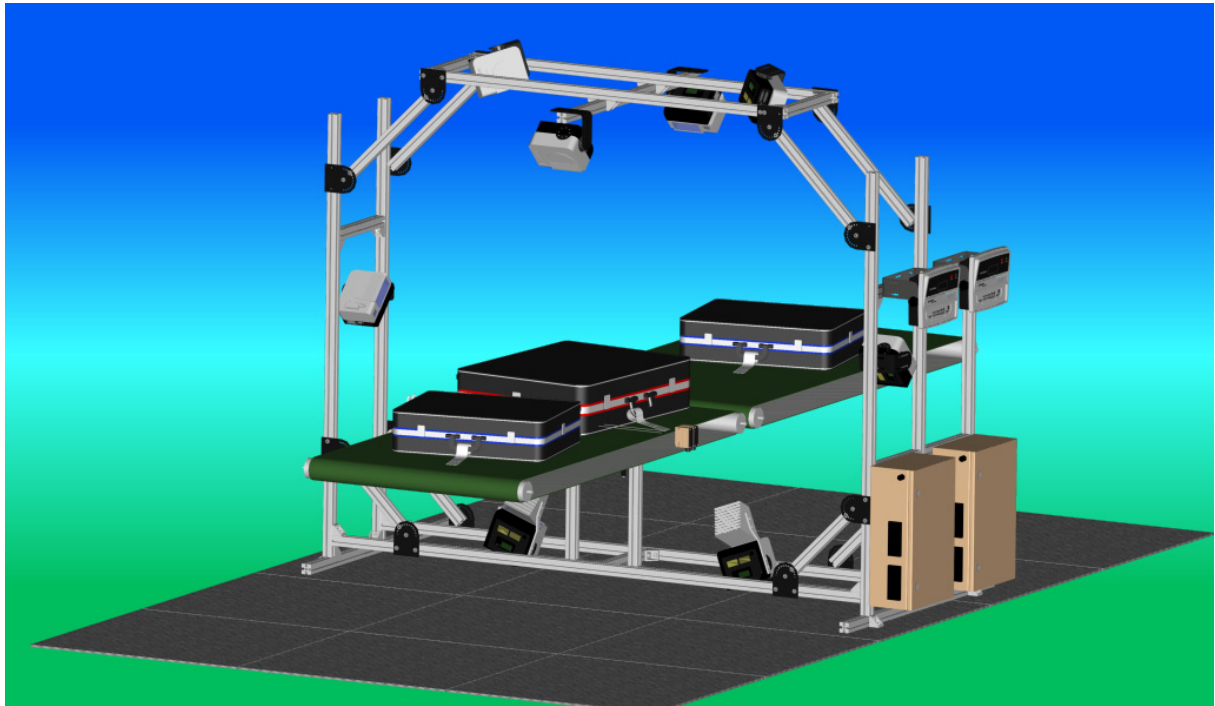


**DS8100A-3002 Typical Layout**





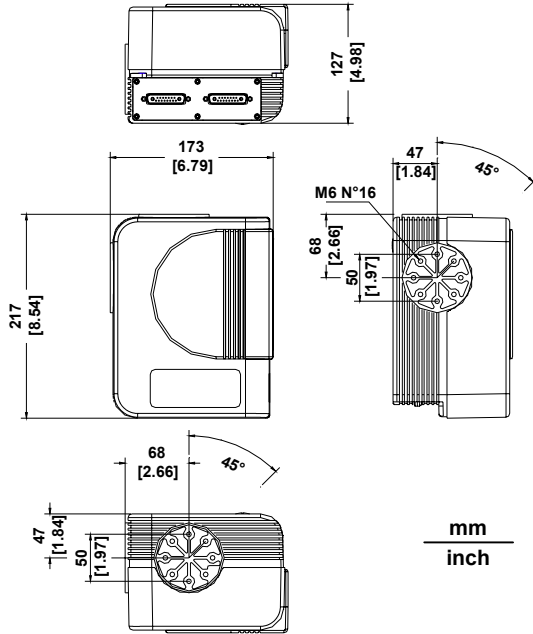
**Example of Redundant System Layout**



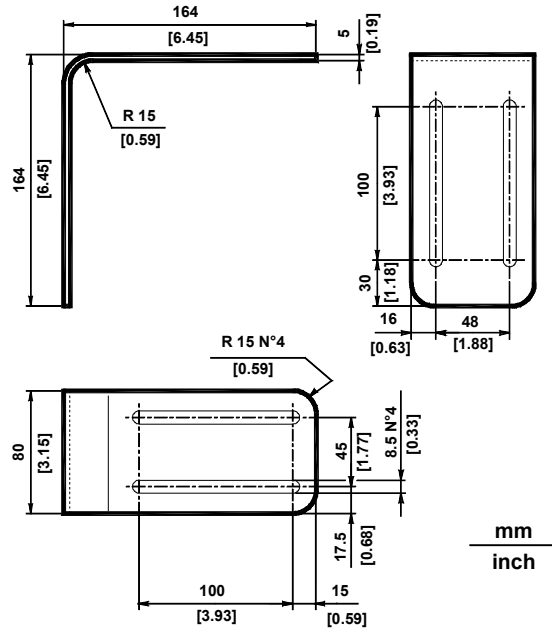
**Example of Redundant System**

**Mechanical Installation:**


DS8100A-3002 can be installed to operate in any position. There are 16 screw holes (M6 X 8) on the sides of the scanner for mounting. The following diagrams give the overall dimensions of the reader standard model and mounting bracket. They may be used for their installation:



**DS8100A-3002 Overall Dimensions**



**ST-163 Mounting Bracket Overall Dimensions**



**WARNING**

*When installing several scanners, take care to position them correctly so that no laser beam enters the reading window perpendicularly and at the same level of the output beam of the other scanners. This condition could occur more frequently for side mounted applications. If these precautions are not followed, it may occur that the laser of the blinded scanner starts blinking due to an internal circuit which temporarily turns the laser off when detecting a power anomaly. To resolve this problem, it is sufficient to slightly change the inclination and position of one of the two scanners involved.*



**Reading Diagrams:**

**Note:** (0,0) is the center of the laser beam output window.

**DS8100A-3002 – 0.50 mm/20 mils**

**CONDITIONS**

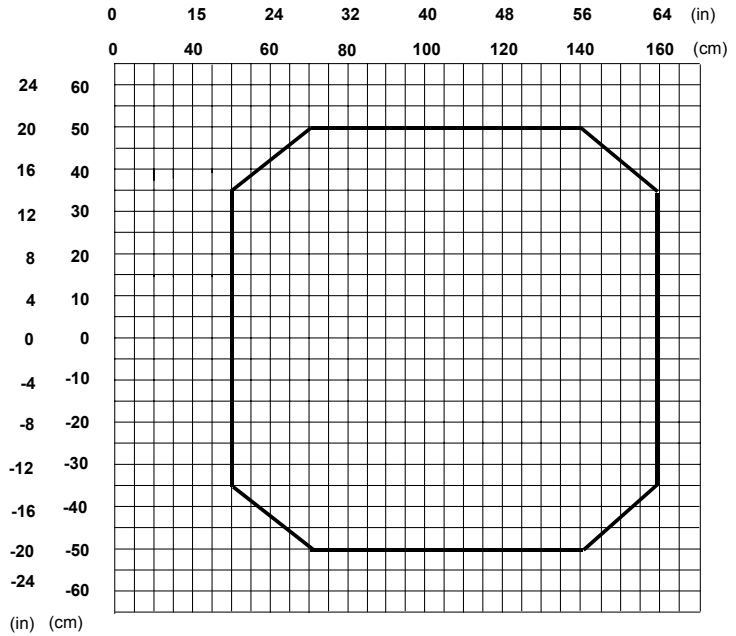
Code = Interleaved 2/5 or Code 39

PCS = 0.90

“Pitch” angle = 0°

“Skew” angle = 10°

“Tilt” angle = 0°



**Safety Precautions:**



**Figure A**

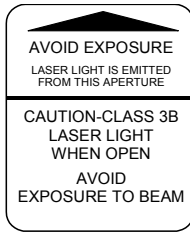
- ① Laser Safety Label
- ② Warning and Device Class Label
- ③ Identification Label

The scanner is classified as a Class 2 laser product according to EN60825-1 regulations and as a Class II laser product according to CDRH regulations.

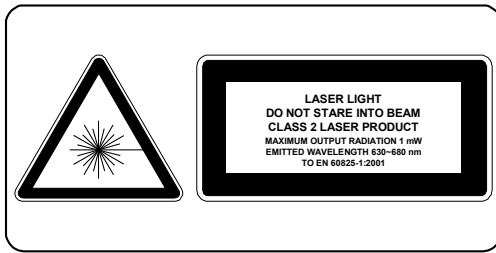
Disconnect the power supply when opening the device during maintenance or installation to avoid exposure to hazardous laser light.

There is a safety device, which allows the laser to be switched on only if the motor is rotating above the threshold for its correct scanning speed.

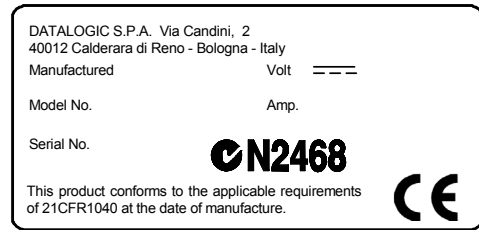
The laser beam can be switched off through a software command (see also the Genius™ Help On-Line).



**Laser Safety Label**



**Warning and Device Class Label**



**Device Identification Label**

The laser diodes used in this device are classified as Class 3B laser products according to EN 60825-1 regulations and as Class IIb laser products according to CDRH regulations. Any violation of the optic parts in particular can cause radiation up to the maximum level of the laser diode (30 mW at 630~680 nm).

**Power Supply**

**This product is intended to be installed by Qualified Personnel only.**

This scanner is intended to be supplied by either a UL Listed power supply marked 'Class 2' or 'LPS', output rated 20 - 30 V dc, minimum 1.5 A or by a UL Listed computer with LPS outputs.

DS8100A-3002 must be supplied by a Class II Power Supply Unit conforming to the EN 60950 safety regulation.

**Patents:**

This product is covered by one or more of the following patents.

U.S. patents: Re. 36,251; 5,483,051; 5,992,740; 6,177,979 B1; 6,347,740 B1; 6,394,352 B1; 6,443,360 B1; 6,527,184 B1; 6,629,639 B2; 6,688,524 B1; 6,742,710 B2; 7,161,685 B1; 5,028,772; 5,124,538; 5,466,921; 5,548,107; 6,206,289 B1; 6,669,091 B2; 7,000,838 B2.

European patents: 652,530 B1; 789,315 B1; 851,376 B1; 926,615 B1; 959,426 B9; 1,363,228 B1.

Japanese patents: 3,793,585; 4,033,958.

Additional patents pending.

**Datalogic Automation S.r.l.**  
**Via S. Vitalino 13**  
**40012 - Lippo di Calderara**  
**Bologna - Italy**

dichiara che  
 declares that the  
 déclare que le  
 bescheinigt, daß das Gerät  
 declare que el

**DS8100A-XXXX Laser Scanner** e tutti i suoi modelli  
 and all its models  
 et tous ses modèles  
 und seine Modelle  
 y todos sus modelos

sono conformi alle Direttive del Consiglio Europeo sottoelencate:  
 are in conformity with the requirements of the European Council Directives listed below:  
 sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:  
 der nachstehend angeführten Direktiven des Europäischen Rats:  
 cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

<b>89/336/EEC EMC Directive</b>	e	<b>92/31/EEC, 93/68/EEC</b>	emendamenti successivi
	and		further amendments
	et		ses successifs amendements
	und		späteren Abänderungen
	y		sucesivas enmiendas

**2006/95/EC Low Voltage Directive**

Basate sulle legislazioni degli Stati membri in relazione alla compatibilità elettromagnetica ed alla sicurezza dei prodotti.  
 On the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.  
 Basée sur la législation des Etats membres relative à la compatibilité électromagnétique et à la sécurité des produits.  
 Über die Annäherung der Gesetze der Mitgliedsstaaten in bezug auf elektromagnetische Verträglichkeit und Produktsicherheit entsprechen.  
 Basado en la aproximación de las leyes de los Países Miembros respecto a la compatibilidad electromagnética y las Medidas de seguridad relativas al producto.

Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:  
 This declaration is based upon compliance of the products to the following standards:  
 Cette déclaration repose sur la conformité des produits aux normes suivantes:  
 Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:  
 Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:

<b>EN 55022 (Class A ITE), September 1998:</b>	INFORMATION TECHNOLOGY EQUIPMENT RADIO DISTURBANCE CHARACTERISTICS LIMITS AND METHODS OF MEASUREMENTS
<b>EN 61000-6-2, September 2005:</b>	ELECTROMAGNETIC COMPATIBILITY (EMC) PART 6-2: GENERIC STANDARDS - IMMUNITY FOR INDUSTRIAL ENVIRONMENTS
<b>EN 60950-1, December 2001: EN 60950-1/A11, April 2004:</b>	INFORMATION TECHNOLOGY EQUIPMENT - SAFETY - PART 1 : GENERAL REQUIREMENTS
<b>EN 60825-1, March 1994: EN 60825-1/A1, July 1996: EN 60825-1/A2, March 2001:</b>	SAFETY OF LASER PRODUCTS - PART 1 : EQUIPMENT CLASSIFICATION, REQUIREMENTS AND USER'S GUIDE

Lippo di Calderara, January 29th, 2008

Lorenzo Girotti  
 Product & Process Quality Manager

